

Boat Meadow River Subwatershed Eastham, Cape Cod, Massachusetts

The Boat Meadow River Subwatershed is located in the Town of Eastham with its southernmost portion in the Town of Orleans. It is a small watershed with an area of 651 acres. Boat Meadow Creek connects with Cape Cod Bay. According to Division of Marine Fisheries Sanitary Surveys, wildlife are the most likely cause of poor water quality in Boat Meadow that results in the area being prohibited for shellfish harvesting.

The Inner Cape Cod Bay Area of Critical Environmental Concern (ACEC) is partially located in this subwatershed. It was designated in 1985 and is 2,550 acres in size. Within this area are almost 900 acres of salt marsh, hundreds of acres of highly productive shellfish beds, extensive undisturbed wildlife habitat, barrier beaches, salt ponds, and tidal rivers and creeks. The nine barrier beaches within the ACEC act as natural storm buffers to protect landward areas. Several areas of historical interest from early settlements are listed with the Massachusetts Historic Commission. The area is noted for its pristine character, including feeding and nesting grounds for the endangered diamond-back terrapin and important breeding, feeding, and nesting areas for over 80 species of birds as well as many species of mammals.

In Eastham, there is a potential public health issue associated with high nitrate levels in drinking water. There are no municipal water or sewer systems in Eastham, but the town is beginning to look at comprehensive water resources management, including both public water supply and alternative wastewater management. Most of Orleans is serviced by municipal water. About six cottages near the rotary on the Eastham/Orleans town line have service connections to the Orleans water supply. Orleans began construction of an iron and manganese treatment plant in the end of 2002 to treat currently unpalatable well water. Orleans does not have a municipal sewer system.

Stewards:

- Eastham Pond Stewards (formed 2001)

Studies conducted in the watershed:

- Water Resources of Outer Cape Cod. 1998. Cape Cod Commission and Lower Cape Cod Water Management Task Force.
- Salt Marsh Ecological Assessment Study. Conducted from 1999-2003. Sites on Boat Meadow River.
- Source Water Assessment Program (SWAP) in Eastham, conducted by Department of Environmental Protection. Final Reports available for four of the five nontransient noncommunity (NTNC) public water supply systems (such as schools) in 2002. Of 45 transient noncommunity (TNC) water suppliers (such as restaurants) in the town, 24 were assessed by 2002 with final reports available for 17 of them.
- Cape Cod Atlas of Tidally Restricted Salt Marshes. 2001. Cape Cod Commission.
- Orleans Priority Open Space Project – 2001. The Compact of Cape Cod Conservation Trusts. Created a ranking list of undeveloped parcels that, if acquired as open space, would protect the most important natural resource areas in Orleans.

- Hydrologic Analysis of the Water Resources of Lower Cape Cod. US Geological Survey. Conducted during 2001 and 2003.

Who is collecting water quality data and where:

- Town of Eastham has been collecting data on private well water quality for the past year. Approximately 20% of wells were tested in 2001. Goal is to obtain a comprehensive town-wide assessment of drinking water quality over the next three years.
- The Eastham Pond Stewards collect water quality data on 10 Eastham ponds to the north of this subwatershed.

Management actions taken:

- Boat Meadow Creek/Cape Cod Rail Trail Salt Marsh Restoration Project. Replacement of the existing culvert with a larger culvert sized to restore full tidal flushing to the Boat Meadow Creek salt marsh. This project was accepted under the GROWetlands Initiative of the Massachusetts Wetlands Restoration Program. Completed in 2002.
- Funding assistance of up to \$250,000 through the federal Land and Water Conservation Fund to the Town of Eastham for the purchase of the Aschettino property, adjacent to the Cape Cod Rail Trail. Project was completed in June 2002.
- Source Water Assessment Program (SWAP) in Eastham, conducted by Department of Environmental Protection. 2002.

Subwatershed facts: (For data sources see Appendix)

- 21 E sites: none
- Solid waste sites: none
- Zone IIs located in this watershed: none
- Interim Wellhead Protection Areas (IWPAs): 2
- Percent of the undeveloped land that is protected (according to 1985/1990 data): 39.9%
- Acres of existing wetlands: 211
- Certified vernal pools: none
- Named freshwater ponds: none
- Named rivers or creeks: Boat Meadow River
- Outstanding Resource Waters: Boat Meadow River
- 1998 Massachusetts 303(d) List of Impaired Waterbodies: A segment of the Boat Meadow River, from the old railway grade to the mouth at Cape Cod Bay – pathogens.
- Shellfish growing areas: Boat Meadow River and the semi-enclosed portion of Cape Cod Bay that Boat Meadow Creek empties into are prohibited to shellfish harvesting.
- This watershed contains Natural Heritage and Endangered Species Program (NHESP) Estimated Habitats of Rare Wildlife.

Priorities:

- Develop short and long-term management plans to maintain an adequate supply of potable water, including monitoring of water quality and investigation of practicable alternatives. Explore alternatives of managing wastewater to reduce nitrogen impacts in drinking water, on shellfish habitat, and on marine water quality.

- Implement BMP on storm drain located along Route 6 and discharging into Boat Meadow River. Work with Massachusetts Highways Department to correct. (NRCS).
- Implement those salt marsh restoration projects identified in the 2001 *Cape Cod Atlas of Tidally Restricted Salt Marshes* that have been evaluated and prioritized by the town. Sites are: Cape Cod Rail Trail restriction of Boat Meadow River (Site OR-4/EA-3), Smith Lane restriction of Boat Meadow River (EA-4), and Cape Cod Rail Trail restriction of channel off Boat Meadow River (EA-5).
- Establish and continue private well monitoring programs to track private well water quality (from the Lower Cape Water Management Task Force's Final Report 1998).
- Study in greater detail the potential effects of groundwater pumping on the hydrology and ecology of kettle ponds and vernal pools (from the Lower Cape Water Management Task Force's Final Report 1998).
- The town and National Seashore should begin to explore institutional mechanisms for cooperatively managing the shared water resources of the Outer Cape (from the Lower Cape Water Management Task Force's Final Report 1998).
- Use the USGS Groundwater Modeling Study to identify and acquire land for future water supply sites.

Recreation:

Camping areas: none

Golf courses: none

Pathways and trails:

- Cape Cod Rail Trail
- Lamont Smith Conservation Area
- www.capecodcommission.org/pathways/trailguide.htm

Public access points:

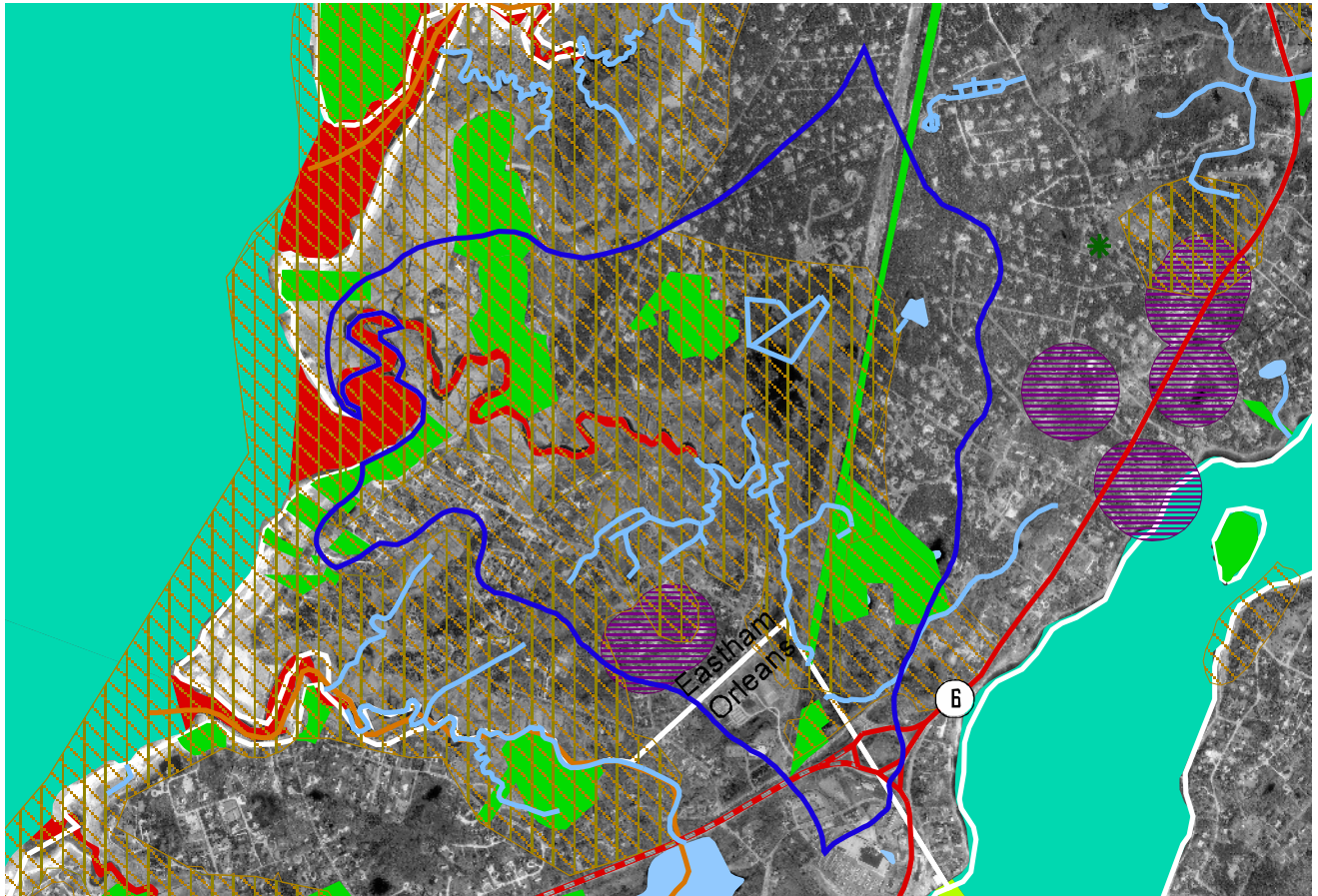
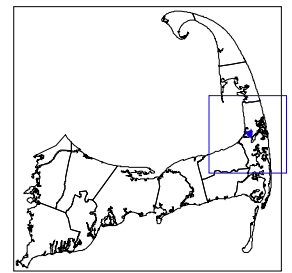
- www.state.ma.us/dfwele/pab/pabSEmap.htm

Public beaches and landings:

- Boat Meadow Beach

Boat Meadow River

Eastham and Orleans, MA



Watershed Resources



0 0.3 0.6 Miles

Natural Heritage and Endangered Species Program Data

- Certified Vernal Pool
- Priority Habitats of Rare Species
- Estimated Habitats of Rare Species

Groundwater Protection Areas

- Interim Wellhead Protection Area
- Zone II
- Solid Waste Facility

Watershed Boundary

Anadromous Fish Run

Shellfish Growing Areas

- APPROVED
- CONDITIONALLY APPROVED
- MANAGEMENT CLOSURE
- PROHIBITED
- RESTRICTED

Open Space

Streams

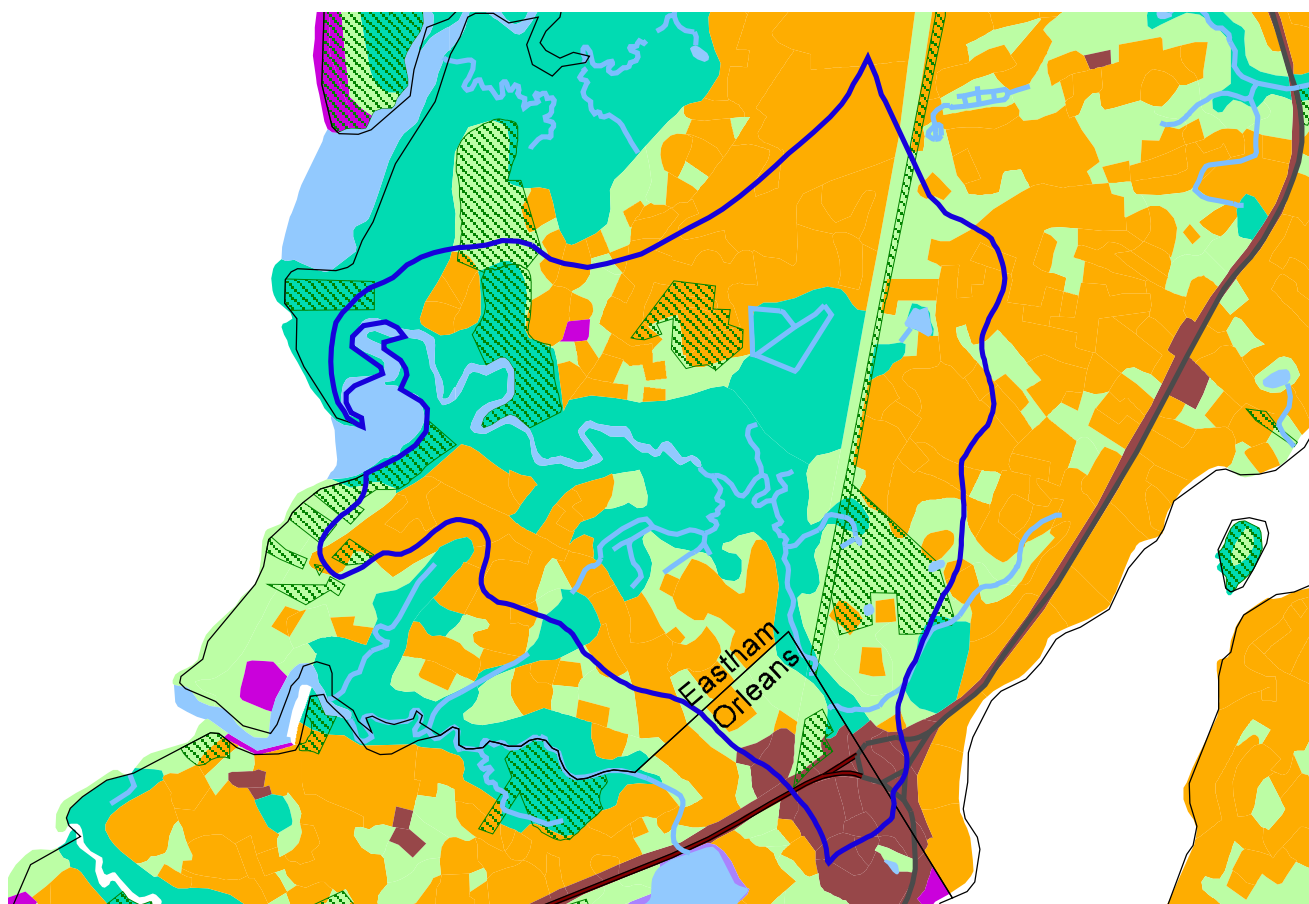
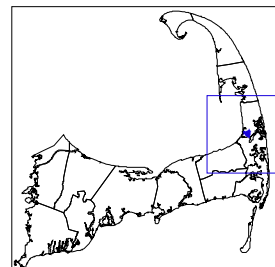
Ponds

Roads

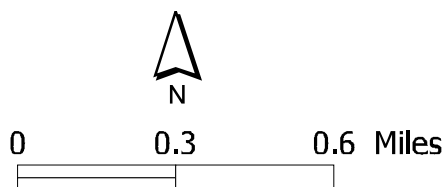


Boat Meadow River

Eastham and Orleans, MA



Land Use



Land Use

